

## CHOOSE THE CORRECT ANSWER:

1. The number of known elements up till now is ..... Elements.

- a.92                      b.121                      c.115                      d.118

2. The number of energy levels in sodium ion is ..... the number of energy levels in its atom.

- a. equal to      b. more than      c. less than      d. no correct answer

3. The elements which has atomic number 12 is considered from .....

- a. metals.      b. nonmetals.      c. noble gases.      d. no correct answer

4. All of the following are examples of single covalent bonds except .....

- a.  $H_2$                       b.  $N_2$                       c.  $HCl$                       d.  $H_2O$

5. All of the following elements are divalent except .....

- a. $_{12}Mg$                       b.  $_7N$                       c.  $_8O$                       d.  $_{16}S$

6. Nitrate and nitrite groups are different in the .....

- a. type of atoms    b. valency    c. number of atoms    d. no correct answer

7. The salt that is formed on the combination of positive metal ion with negative atomic group .....

- a. $NH_4Cl$                       b. $Na_2SO_4$                       c.  $(NH_4)_2CO_3$                       d.  $NH_4Br$

8. All of these substances turns litmus paper into red except .....

- a.  $HCl$                       b.  $NaOH$                       c.  $HNO_3$                       d.  $H_2SO_4$

9. All of these salts dissolve in water except.....

- a. sodium chloride.    b. potassium chloride.  
c. silver chloride.    d. sodium sulphide.

10. In trivalent elements, the outermost energy level contains..... electrons.

- a. (3) or (5)                      b. (7) or (1)                      c. (5) or (6)                      d. (6) or (3)

11. ALL elements are metals except .....

- a. iron                      b. oxygen                      c. sodium                      d. copper

12. Phosphate and sulphate groups are different in the.....

- a. types of atoms.    b. valency    c. number of atoms    d. a and b

13. The chemical formula of calcium bicarbonate is .....

- a.  $CaCO_3$                       b.  $Ca H(CO_3)_2$                       c.  $Ca (HCO_3)_2$                       d.  $CaHCO_3$

14. When an alkali(base) dissolves in water, it gives .....ions.

- a.  $H^+$                       b.  $(OH)^-$                       c.  $(OH)^{-2}$                       d.  $(OH)^+$

**15. On the combination of  $(\text{Mg})^{+2}$  ion with  $(\text{CO}_3)^{-2}$  group, ..... is formed.**

- a. an acid              b. a base              c. a covalent              d. a salt

**16. The bond in oxygen molecule is a/an ..... bond.**

- a. ionic      b. single covalent      c. double covalent      d. triple covalent

**17. The chemical reaction are used in .....**

- a. food industry.                      b. medicine industry.  
c. fertilizers industry.              d. all of the previous answers.

**18. All of the following are monovalent atomic groups except..... nitrate.**

- a. hydroxide      b. bicarbonate.      c. phosphate.      d. nitrite.

**19. The mass of two molecules of sodium hydroxide equals ..... gm.**

[knowing that the atomic mass of Na =23, H=1 and O=16].

- a.80              b. 40              c. 20              d. 10

**20. When an element (11X) combines with oxygen, the symbol of the produced oxide is .....**

- a. XO              b.  $\text{X}_2\text{O}$               c.  $\text{XO}_2$               d.  $\text{X}_2\text{O}_3$

**21. From properties of graphite element that.....**

- a. it is a good conductor of electricity.      b. it is malleable and ductile.  
c. it has a metallic luster.                      d. no correct answer.

**22. The changing of lithium atom (Li) into lithium ion (Li<sup>+</sup>) means it .....**

a. gains proton.   b. gains electrons   c. loses proton   d. loses electrons.

**23. All of the following elements change into negative ions during chemical reactions except .....**

a.  $_{12}\text{Mg}$       b.  $_{8}\text{O}$       c.  $_{7}\text{N}$       c.  $_{17}\text{Cl}$

**24. Sulphuric acid is characterized by all of the following excepts.....**

a. is chemical formula is  $\text{H}_2\text{SO}_4$ .      b. is a mineral acid.  
c. it changes a colour of litmus into red.      d. it has a bitter taste.

**25. The following elements are good conductors of electricity except....**

a.  $_{8}\text{O}$       b.  $_{11}\text{Na}$       c.  $_{26}\text{Fe}$       d.  $_{13}\text{Al}$

**26. The number of atoms of ammonium nitrate molecule equal.....**

a. 5      b. 8      c. 7      d. 9

**27. When an acid dissolves in water, it produces ..... ions.**

a.  $\text{H}^-$       b.  $(\text{OH})^+$       c.  $\text{H}^+$       d.  $(\text{OH})^-$

**28. Sodium Chloride is.....**

a. an acid      b. a base      c. an oxide.      d. a salt

**29. All of these are nonmetal oxides except.....**

a.  $\text{CO}_2$       b.  $\text{P}_2\text{O}_5$       c.  $\text{SO}_3$       d.  $\text{Al}_2\text{O}_3$

30. All of substances turn litmus paper into red except.....

- a. HCl                      b. HNO<sub>3</sub>                      c. NaOH                      d. H<sub>2</sub>SO<sub>4</sub>

31. The chemical formula of calcium bicarbonate is .....

- a. Ca(HCO<sub>3</sub>)<sub>2</sub>                      b. Ca(CO<sub>3</sub>)<sub>2</sub>                      c. CaCO<sub>3</sub>                      d. CaC

32. Sodium hydroxide is.....

- a. an acid                      b. a base                      c. an oxide.                      d. a salt

33. the electronic configuration of K<sub>19</sub> ion , is similar to the electronic configuration of ..... ion

- a. <sub>18</sub>Ar                      b. <sub>11</sub>Na                      c. <sub>12</sub>Mg                      d. <sub>17</sub>Cl

34. All the following are covalent molecules except .....

- a. H<sub>2</sub>O                      b. MgCl<sub>2</sub>                      c. CO<sub>2</sub>                      d. H<sub>2</sub>

35. the chemical formula of sodium hydroxide is .....

- a. *HCl*                      b. *NaOH*                      c. *HNO<sub>3</sub>*                      d. *H<sub>2</sub>SO<sub>4</sub>*

36. carbonate and bicarbonate groups are different in the .....

- a. type of atoms    b. valency    c. number of atoms    d. all the previous

37. the number of electron in the outermost energy level of (O-2 ) equal to the number of electron in the outer most energy level of .....

- a. <sub>18</sub>Ar                      b. <sub>11</sub>Na                      c. <sub>12</sub>Mg                      d. <sub>17</sub>Cl

**38. in the positive ion the number of positive protons is .....than the number of negative electrons**

- a. equal to      b. more than      c. less than      d. no correct answer

**39. The bond in nitrogen molecule is a/an ..... bond.**

- a. ionic      b. single covalent      c. double covalent      d. triple covalent

**40. When an acid dissolve in water, it produces ..... ions.**

- a.  $\text{H}^-$                       b.  $(\text{OH})^+$                       c.  $\text{H}^+$                       d.  $(\text{OH})^-$

## Model answer

1-d	7-b	13-c	19-b	25-a
2-c	8-b	14-b	20-b	26-d
3-a	9-c	15-d	21-a	27-c
4-b	10-a	16-c	22-d	28-d
5-b	11-b	17-d	23-a	29-d
6-c	12-d	18-c	24-d	30-c
				31-a
				32-b
				33-d
				34-b
				35-b
				36-d
				37-a
				38-b
				39-d
				40-c

## Choose ?

1. In positive ion, the number of protons are ..... number of electrons.  
☐ A Equal ☐ B Less than ☐ C More than ☐ D Half
2. Neon is a ..... valent element.  
☐ A Mono ☐ B Di ☐ C Tri ☐ D Zero
3. The number of known elements till now is .....  
☐ A 110 ☐ B 118 ☐ C 116 ☐ D 92
4. The type of bond in water molecule .....  
☐ A Ionic ☐ B Double covalent ☐ C Single covalent ☐ D Triple covalent
5. The molecules of Noble gases consist of .....  
☐ A One atom ☐ B Two atoms ☐ C Three atoms ☐ D Four atoms
6. .... bond arises between a metallic and non-metallic element.  
☐ A Single covalent ☐ B Ionic ☐ C hydrogen ☐ D Double covalent
7. There is triple covalent bond in ..... Molecules.  
☐ A Hydrogen ☐ B Oxygen ☐ C Ammonia ☐ D Nitrogen
8. All the following metals share in chemical reaction except .....  
☐ A  $_{11}\text{Na}$  ☐ B  $_{13}\text{Al}$  ☐ C  $_{10}\text{Ne}$  ☐ D  $_{3}\text{Li}$
9. All the following elements are monovalent except .....  
☐ A Oxygen ☐ B Hydrogen ☐ C Bromine ☐ D Sodium
10. The chemical formula of Calcium carbonate is .....  
☐ A  $\text{CaO}$  ☐ B  $\text{CaSO}_4$  ☐ C  $\text{CaCO}_3$  ☐ D  $\text{Ca}(\text{NO}_3)_2$
11. The salt formed on combination of positive atomic group with negative atomic group is .....  
☐ A  $\text{NH}_4\text{Cl}$  ☐ B  $(\text{NH}_4)_2\text{CO}_3$  ☐ C  $\text{Na}_2\text{SO}_4$  ☐ D  $\text{NH}_4\text{Br}$
12. When base dissolves in water, It gives .....ions.  
☐ A Hydroxide ☐ B Hydrogen ☐ C Oxide ☐ D Chlorine





13. All the following turn the blue litmus paper into red except.....

- ☐ A  $\text{HNO}_3$       ☐ B  $\text{H}_2\text{SO}_4$       ☐ C  $\text{NaOH}$       ☐ D  $\text{HCl}$

14. The chemical formula of carbonate group is .....

- ☐ A  $\text{NO}_3^-$       ☐ B  $\text{CO}_3^{2-}$       ☐ C  $\text{CO}_2$       ☐ D  $\text{HCO}_3^-$

15. .... is the only liquid non-metal.

- ☐ A Mercury      ☐ B Bromine      ☐ C Chlorine      ☐ D Sodium

16. .... is the only non metallic element that conducts electricity.

- ☐ A Iron      ☐ B Copper      ☐ C Graphite      ☐ D Sulphur

17. .... is a brittle element.

- ☐ A Carbon      ☐ B Aluminium      ☐ C Copper      ☐ D Sodium

18. .... atom is considered as a nonmetal.

- ☐ A Copper      ☐ B Hydrogen      ☐ C Mercury      ☐ D Aluminium

19. .... is considered as an element that is malleable and ductile.

- ☐ A C      ☐ B Fe      ☐ C S      ☐ D P

20. The chemical symbol of mercury element is .....

- ☐ A Mg      ☐ B Ag      ☐ C Hg      ☐ D Cu

21. All metals are solids except .....

- ☐ A Iron      ☐ B Bromine      ☐ C Copper      ☐ D Mercury

22. .... is a diatomic molecule.

- ☐ A Hydrogen      ☐ B Iron      ☐ C Copper      ☐ D Sodium

23. .... is a gaseous monoatomic molecule.

- ☐ A Oxygen      ☐ B Chlorine      ☐ C Hydrogen      ☐ D Argon

24. .... has no luster.

- ☐ A Copper      ☐ B Iron      ☐ C Carbon      ☐ D Gold

25. The chemical symbol of silver is .....

- ☐ A Ag      ☐ B S      ☐ C Si      ☐ D Ar



26. An atom has 2 electrons in its outer most energy level, so this is a/an ..... element.

- ☐ A Non-metal      ☐ B Metal      ☐ C Inert gas      ☐ D Ion

27. The outer most energy level of Sodium  $_{11}\text{Na}$  ion contains ..... electron(s).

- ☐ A 1      ☐ B 8      ☐ C 11      ☐ D 10

28. All of these elements compose negative ions except .....

- ☐ A  $_{7}\text{N}$       ☐ B  $_{3}\text{Li}$       ☐ C  $_{17}\text{Cl}$       ☐ D  $_{8}\text{O}$

29. The outer most energy level is completely filled with electrons in ..... atom

- ☐ A Helium      ☐ B Potassium      ☐ C Aluminium      ☐ D Hydrogen

30. All of these elements are solids except .....

- ☐ A Fe      ☐ B Hg      ☐ C Cu      ☐ D Ag

31. .... atom tends to lose electrons in chemical reactions.

- ☐ A Chlorine      ☐ B Oxygen      ☐ C Aluminium      ☐ D Nitrogen

32. There's an ionic bond in ..... molecule.

- ☐ A Water      ☐ B Hydrogen      ☐ C Oxygen      ☐ D Magnesium oxide

33. .... Is an ionic compound.

- ☐ A Sodium chloride      ☐ B Water      ☐ C Hydrogen      ☐ D Nitrogen

34. Triple covalent bond consists of ..... electrons.

- ☐ A Three      ☐ B Four      ☐ C Six      ☐ D Two

35. In double covalent bond, each atom shares with ..... electron(s).

- ☐ A Four      ☐ B Two      ☐ C One      ☐ D Three

36. .... bond consists of two pairs of electrons.

- ☐ A Single covalent      ☐ B Double covalent      ☐ C Triple covalent      ☐ D ionic

37. .... molecule consists of two different elements.

- ☐ A Nitrogen      ☐ B Water      ☐ C Hydrogen      ☐ D Oxygen





38. The changing of lithium atom (Li) into lithium ion ( $\text{Li}^+$ ), means it .....

- ☐ A Gains proton    ☐ B Gains electron    ☐ C Loses electron    ☐ D Loses proton

39. .... has an acidic effect on litmus paper.

- ☐ A NaOH    ☐ B KOH    ☐ C HCl    ☐ D  $\text{Mg}(\text{OH})_2$

40. .... is a bond results from the electrical attraction between a positive and negative ion.

- ☐ A Double covalent    ☐ B Ionic    ☐ C Single covalent    ☐ D Hydrogen

41. The chemical formula of sulphate group is .....

- ☐ A  $\text{CO}_3^{-2}$     ☐ B  $\text{SO}_4^{-2}$     ☐ C  $\text{PO}_4^{-3}$     ☐ D  $\text{OH}^-$

42. .... dissociates in water producing negative hydroxide ion.

- ☐ A HCl    ☐ B KOH    ☐ C  $\text{HNO}_3$     ☐ D NaCl

43. .... is a set of atoms joined atoms behaving like a single atom in chemical reactions.

- ☐ A Chemical formula    ☐ B Atomic group    ☐ C Chemical symbol    ☐ D An ion

44.  $\text{NaNO}_3$  is the chemical formula of .....

- ☐ A Sodium nitrite    ☐ B Sodium nitrate    ☐ C Sodium oxide    ☐ D Sodium carbonate

45. All of these are metallic oxides except .....

- ☐ A  $\text{Al}_2\text{O}_3$     ☐ B  $\text{CO}_2$     ☐ C CaO    ☐ D MgO

46. The chemical formula of calcium nitrate is .....

- ☐ A  $\text{CaNO}_3$     ☐ B  $\text{Ca}(\text{NO}_3)_2$     ☐ C  $\text{Ca}(\text{NO}_2)_2$     ☐ D  $\text{KNO}_3$

47.  $\text{Al}_2\text{O}_3$  is considered as a ..... compound molecule.

- ☐ A Acidic    ☐ B Basic    ☐ C Salt    ☐ D Oxide

48. All of these are salt compounds except .....

- ☐ A  $\text{KNO}_3$     ☐ B  $\text{NH}_4\text{Cl}$     ☐ C NaOH    ☐ D KCl

49. The chemical formula of nitric acid is .....

- ☐ A  $\text{H}_2\text{O}$     ☐ B HCl    ☐ C  $\text{HNO}_3$     ☐ D  $\text{H}_2\text{SO}_4$



50. The bond in ..... molecule is a double single covalent bond.

- ☐ A Hydrogen      ☐ B Water      ☐ C Oxygen      ☐ D Nitrogen

51. All of the following are metals except .....

- ☐ A Iron      ☐ B Oxygen      ☐ C Copper      ☐ D Sodium

52. .... is a non-metallic oxide.

- ☐ A Sulphur trioxide      ☐ B Magnesium oxide      ☐ C Sodium oxide      ☐ D Calcium oxide

53. The chemical formula of sulphuric acid is .....

- ☐ A HCl      ☐ B H<sub>2</sub>O      ☐ C H<sub>2</sub>SO<sub>4</sub>      ☐ D HNO<sub>3</sub>

54. The chemical formula of lime water is .....

- ☐ A NaOH      ☐ B KOH      ☐ C Ca(OH)<sub>2</sub>      ☐ D H<sub>2</sub>SO<sub>4</sub>

55. .... is a basic compound.

- ☐ A Aluminum oxide      ☐ B Water      ☐ C Caustic soda      ☐ D Sodium chloride

56. All of these are soluble in water except .....

- ☐ A Sodium carbonate      ☐ B Silver chloride      ☐ C Sodium chloride      ☐ D Potassium chloride

57. Caustic soda is considered as a .....

- ☐ A Salt      ☐ B Acid      ☐ C Base      ☐ D Oxide

58. All of these are basic oxides except .....

- ☐ A Al<sub>2</sub>O<sub>3</sub>      ☐ B CO<sub>2</sub>      ☐ C Ca(OH)<sub>2</sub>      ☐ D Na<sub>2</sub>O

59. The chemical formula of lead iodide is .....

- ☐ A PbO<sub>2</sub>      ☐ B PbSO<sub>4</sub>      ☐ C Li<sub>2</sub>SO<sub>4</sub>      ☐ D Pb(NO<sub>3</sub>)<sub>2</sub>

60. .... Is a compound resulted from the combination of oxygen with a nonmetal.

- ☐ A Na<sub>2</sub>O      ☐ B SO<sub>3</sub>      ☐ C NaNO<sub>3</sub>      ☐ D MgO

61. .... associates in water producing a positive hydrogen ion.

- ☐ A Sodium chloride      ☐ B Sodium hydroxide      ☐ C Nitric acid      ☐ D Copper carbonate





62. All of these are salt compounds except .....

- ☐ A Potassium chloride ☐ B Copper carbonate ☐ C Silver chloride ☐ D Metalloids

63. When a metal loses two electrons, its valency will be .....

- ☐ A Monovalent ☐ B Divalent ☐ C Trivalent ☐ D Tetravalent

64. The number of atoms in sodium sulphate compound are ..... atoms.

- ☐ A Two ☐ B Six ☐ C Seven ☐ D Three

65. The valency of ferrous is .....

- ☐ A Monovalent ☐ B Divalent ☐ C Trivalent ☐ D Tetravalent

66. All of the following elements are divalent except .....

- ☐ A  $_{12}\text{Mg}$  ☐ B  $_{8}\text{O}$  ☐ C  $_{16}\text{S}$  ☐ D  $_{11}\text{Na}$

67. .... is a divalent atomic group.

- ☐ A  $(\text{NO}_3)^-$  ☐ B  $(\text{CO}_3)^{-2}$  ☐ C  $(\text{NH}_4)^+$  ☐ D  $(\text{NO}_2)^-$

68. The valency of copper in  $\text{Cu}_2\text{O}$  is .....

- ☐ A Monovalent ☐ B Divalent ☐ C Trivalent ☐ D Pentavalent

69. The valency of Sulphur in  $\text{SO}_2$  is .....

- ☐ A Monovalent ☐ B Divalent ☐ C Tetravalent ☐ D Hexavalent

70. The valency of iron in  $\text{Fe}_2\text{O}_3$  is .....

- ☐ A Monovalent ☐ B Divalent ☐ C Trivalent ☐ D Tetravalent

71. All the following are nonmetals that have more than one valency except .....

- ☐ A Copper ☐ B Phosphorous ☐ C Sulphur ☐ D Nitrogen

72. All of the following are monovalent atomic groups except ..... Group.

- ☐ A Hydroxide ☐ B Nitrate ☐ C Carbonate ☐ D Bicarbonate

73. The chemical formula of ferric nitrate is .....

- ☐ A  $\text{FeNO}_3$  ☐ B  $\text{Fe}(\text{NO}_3)_2$  ☐ C  $\text{Fe}(\text{NO}_3)_3$  ☐ D  $\text{Fe}(\text{NO}_2)_2$



74. .... is a trivalent atomic group.

- ☐ A Carbonate      ☐ B Sulphate      ☐ C Phosphate      ☐ D Ammonium

75. Nitrate and nitrite groups are different in .....

- ☐ A valency      ☐ B Number of atoms      ☐ C Type of atoms      ☐ D Charge

76. Phosphate and sulphate groups are similar in the .....

- ☐ A Number of atoms      ☐ B Type of atoms      ☐ C valency      ☐ D Charge

77. The ammonium group is a ..... radical.

- ☐ A Monovalent      ☐ B Divalent      ☐ C Trivalent      ☐ D Tetravalent

78. All of these atomic groups carries the same charge except .....

- ☐ A Nitrite      ☐ B Nitrate      ☐ C Bicarbonate      ☐ D Ammonium

79. The valency of carbon in carbon dioxide ( $\text{CO}_2$ ) is .....

- ☐ A Divalent      ☐ B Trivalent      ☐ C Tetravalent      ☐ D Monovalent

80. The chemical formula of calcium carbonate is .....

- ☐ A  $\text{CaCO}_3$       ☐ B  $\text{Ca}(\text{HCO}_3)_2$       ☐ C  $\text{CaHCO}_3$       ☐ D  $\text{Ca}_2\text{HCO}_3$

81. The chemical formula of ammonium chloride is .....

- ☐ A  $\text{NH}_4\text{Cl}_2$       ☐ B  $\text{NH}_4\text{Cl}$       ☐ C  $\text{NH}_3\text{Cl}$       ☐ D  $(\text{NH}_4)_2\text{Cl}$

80. The chemical formula of sodium sulphide is .....

- ☐ A  $\text{NaSO}_4$       ☐ B  $\text{Na}_2\text{SO}_4$       ☐ C  $\text{Na}_2\text{S}$       ☐ D  $\text{Na}_3\text{PO}_4$

81. Element (X) form a compound  $\text{X}(\text{OH})_2$ , so its valency is .....

- ☐ A Monovalent      ☐ B Divalent      ☐ C Trivalent      ☐ D Tetravalent

82. Element (X) is trivalent, so chemical formula of its oxide will be .....

- ☐ A  $\text{X}_3\text{O}$       ☐ B  $\text{X}_2\text{O}$       ☐ C  $\text{X}_2\text{O}_3$       ☐ D  $\text{XO}_3$

83. The chemical formula of potassium nitrite is .....

- ☐ A  $\text{KNO}_3$       ☐ B  $\text{KNO}_2$       ☐ C  $\text{K}_2\text{NO}_3$       ☐ D  $\text{K}_2\text{NO}_2$





84. The number of elements nitric acid are ..... Elements.

- ☐ A Three ☐ B Four ☐ C Five ☐ D Two

85. All of these turns litmus paper color red except .....

- ☐ A  $\text{HNO}_3$  ☐ B  $\text{HCl}$  ☐ C  $\text{NaOH}$  ☐ D  $\text{H}_2\text{SO}_4$

86. All of these turns litmus paper color red except .....

- ☐ A  $\text{HNO}_3$  ☐ B  $\text{HCl}$  ☐ C  $\text{NaOH}$  ☐ D  $\text{H}_2\text{SO}_4$

87. The number of atoms in ammonium nitrate molecule equals .....

- ☐ A 5 ☐ B 9 ☐ C 7 ☐ D 8

88. When an acid dissolves in water, it produces ..... ions.

- ☐ A  $\text{OH}^+$  ☐ B  $\text{H}^+$  ☐ C  $\text{OH}^-$  ☐ D  $\text{H}^-$

89. When an alkali dissolves in water, it gives ..... ions.

- ☐ A  $\text{OH}^+$  ☐ B  $\text{H}^+$  ☐ C  $\text{OH}^-$  ☐ D  $\text{H}^-$

90. The ..... have a sour taste.

- ☐ A Acids ☐ B Bases ☐ C Oxides ☐ D Salts

91. The aqueous solution of ..... have a bitter taste.

- ☐ A Acids ☐ B Bases ☐ C Oxides ☐ D Salts

92. .... exist in Earth's crust or dissolved in seas water.

- ☐ A Acids ☐ B Bases ☐ C Oxides ☐ D Salts

93. All these negative ions can form salts except ..... ion.

- ☐ A Bromine ☐ B Nitrogen ☐ C Oxygen ☐ D Chloride

94. The chemical formula of ..... ends with hydroxide group.

- ☐ A Acids ☐ B Alkalis ☐ C Oxides ☐ D Salts

95. .... are resulted from the combination of oxygen with a metal or a nonmetal.

- ☐ A Acids ☐ B Alkalis ☐ C Oxides ☐ D Salts



96. Anhydrous copper sulphate is a/an ..... compound.  
☐ A Acidic ☐ B Alkali ☐ C Oxide ☐ D Salt
97. The chemical formula of caustic soda is .....  
☐ A NaCl ☐ B Na<sub>2</sub>O ☐ C NaOH ☐ D Na(OH)<sub>2</sub>
98. Aqueous solution of ..... has a bitter taste.  
☐ A NaCl ☐ B KOH ☐ C HNO<sub>3</sub> ☐ D H<sub>2</sub>SO<sub>4</sub>
99. All these are nonmetal oxides except .....  
☐ A CO<sub>2</sub> ☐ B Al<sub>2</sub>O<sub>3</sub> ☐ C P<sub>2</sub>O<sub>5</sub> ☐ D SO<sub>3</sub>
100. The compound formed from combination of magnesium ion and carbonate group is .....  
☐ A An acid ☐ B A salt ☐ C A base ☐ D An oxide
101. Aluminium combines with ..... atom(s) of oxygen to form aluminium oxide compound.  
☐ A Two ☐ B three ☐ C Four ☐ D One
102. The chemical formula of table salt is .....  
☐ A NaOH ☐ B KCl ☐ C NaCl ☐ D N<sub>2</sub>S
103. All these salts dissolve in water except .....  
☐ A Potassium sulphate ☐ B Sodium chloride ☐ C Silver chloride ☐ D Sodium sulphate
104. The valency of (X) in XO compound is .....  
☐ A Monovalent ☐ B Divalent ☐ C Trivalent ☐ D Tetravalent
105. The formula of hydrochloric acid is .....  
☐ A HNO<sub>3</sub> ☐ B HCl ☐ C HBr ☐ D H<sub>2</sub>SO<sub>4</sub>
106. All of these are monovalent elements except .....  
☐ A Br ☐ B Na ☐ C Hg ☐ D Ag
107. The valency of lead is .....  
☐ A Monovalent ☐ B Divalent ☐ C Trivalent ☐ D Tetravalent





108. The symbol of a mineral acid starts with ..... atom.

- ☐ A Oxygen ☐ B Hydrogen ☐ C Nitrogen ☐ D Ammonium

109. Lead bromide is from .....

- ☐ A Acids ☐ B Oxides ☐ C Bases ☐ D Salts

110. All of these are metallic elements except .....

- ☐ A Hydrogen ☐ B Mercury ☐ C Copper ☐ D Aluminium

111. Carbon atom is .....

- ☐ A Monovalent ☐ B Divalent ☐ C Trivalent ☐ D Tetravalent

112. .... is from the gaseous nonmetals.

- ☐ A Mercury ☐ B Bromine ☐ C Nitrogen ☐ D Carbon

113. The number of electrons in chlorine ( $_{17}\text{Cl}$ ) atom is .....

- ☐ A 17 ☐ B 8 ☐ C 18 ☐ D 10

114. .... is electrical neutral in its ordinary state.

- ☐ A Negative ion ☐ B Positive ion ☐ C Atom ☐ D Ion

115. .... is from the ionic compounds.

- ☐ A  $\text{H}_2\text{O}$  ☐ B  $\text{MgO}$  ☐ C  $\text{N}_2$  ☐ D  $\text{HCl}$

116. In Sodium chloride ( $\text{NaCl}$ ) compound, sodium atom gives ..... to chlorine atom.

- ☐ A 1 electron ☐ B 2 electrons ☐ C Three electrons ☐ D 4 electrons

117. .... bond is a chemical bond where each nonmetallic atom shares with one electron.

- ☐ A ionic ☐ B Single covalent ☐ C Double covalent ☐ D Triple covalent

118. There's a triple covalent bond in ..... molecule.

- ☐ A Oxygen ☐ B Water ☐ C Nitrogen ☐ D Hydrogen

119. .... have less than 4 electrons in their outer most energy level.

- ☐ A Nonmetals ☐ B Metals ☐ C Noble gases ☐ D Positive ion

120. The outer most energy level is completely filled with electrons, except .....

- ☐ A Na ☐ B  $\text{Mg}^{++}$  ☐ C Ar ☐ D Ne



121. When an atom (M) gains two electrons, so it would be .....

☐ A  $M^{-}$

☐ B  $M^{+}$

☐ C  $M^{++}$

☐ D  $M^{-2}$

122. There's a single covalent bond in ..... molecule.

☐ A Oxygen

☐ B Sodium chloride

☐ C Water

☐ D Magnesium oxide

123. .... bond produces only compound molecules.

☐ A Single covalent

☐ B Triple covalent

☐ C Hydrogen

☐ D Ionic

124. All of the following are metals except .....

☐ A Iron

☐ B Oxygen

☐ C Sodium

☐ D Copper

125. The valency of sulphur in sulphur trioxide is .....

☐ A Divalent

☐ B Trivalent

☐ C Tetravalent

☐ D Hexavalent

126. The valency of nitrogen in ( $N_2O_5$ ) is .....

☐ A Divalent

☐ B Trivalent

☐ C Tetravalent

☐ D Pentavalent

127. All of these are metal solid elements except .....

☐ A Sodium

☐ B Iron

☐ C Aluminium

☐ D Mercury

128. Oxygen is from the .....

☐ A Acids

☐ B Bases

☐ C Metals

☐ D Nonmetals

129. The element which has atomic number 12 is considered from .....

☐ A Noble gases

☐ B Metals

☐ C Nonmetals

☐ D Oxides

130. .... don't share in chemical reactions.

☐ A Metals

☐ B Inert gases

☐ C Nonmetals

☐ D Ions

131. The element which has 9 electrons, it produces a .....

☐ A Positive ion

☐ B Negative ion

☐ C Neutral atom

☐ D Neutral ion

132. All of the following can form a positive ion except .....

☐ A  $_{11}\text{Na}$

☐ B  $_{13}\text{Al}$

☐ C  $_{3}\text{Li}$

☐ D  $_{17}\text{Cl}$

133. All of these have 8 electrons in their outer most energy level except .....

☐ A Ne

☐ B  $\text{Mg}^{++}$

☐ C Ar

☐ D He





134. .... Have zero valency.

- ☐ A Metals ☐ B Nonmetal ☐ C Radicals ☐ D Inert gases

135. When a positive radical combines with a negative nonmetal atom, it produces a/an .....

- ☐ A Acid ☐ B Base ☐ C Salt ☐ D Oxide

136. When hydrogen ion combines with a negative atomic group, it produces .....

- ☐ A Acid ☐ B Alkali ☐ C Salt ☐ D Oxide

137. Oxygen combines with ..... atom(s) of sodium to form sodium oxide.

- ☐ A One ☐ B Two ☐ C Three ☐ D Four

138. When oxygen atom combines with aluminium atom, the chemical formula of product is

- ☐ A  $AlO$  ☐ B  $Al_2O$  ☐ C  $Al_3O_2$  ☐ D  $Al_2O_3$

139. All of these are basic compounds except .....

- ☐ A  $NaOH$  ☐ B  $NH_4OH$  ☐ C  $NaCl$  ☐ D  $KOH$

140. .... has a sour taste.

- ☐ A Sodium chloride ☐ B Sodium hydroxide ☐ C Sulphuric acid ☐ D Lithium hydroxide

141. The valency of zinc atom is .....

- ☐ A monovalent ☐ B Divalent ☐ C Trivalent ☐ D Tetravalent

142. All of these elements form negative ions except .....

- ☐ A Oxygen ☐ B Chlorine ☐ C Nitrogen ☐ D Sodium

143. The number of electrons in  $O^{2-}$  is ..... electrons.

- ☐ A 6 ☐ B 8 ☐ C 10 ☐ D 12

144. An element X gains 3 electrons, it becomes .....

- ☐ A  $X^{+3}$  ☐ B  $X^{-3}$  ☐ C  $X^{-2}$  ☐ D  $X^{-}$

145. The only nonmetal that exist in the liquid state is .....

- ☐ A Bromine ☐ B chlorine ☐ C carbon ☐ D mercury

146. All nonmetals are bad conductors of electricity except .....

- ☐ A Bromine ☐ B Aluminium ☐ C Graphite ☐ D Mercury



147. All of these elements can participate in chemical reactions except .....

☐ A Ne

☐ B Na

☐ C N

☐ D H

148. In the ..... the number of electrons is more than the number of

☐ A Negative ion

☐ B Positive ion

☐ C Neutral atom

☐ D Metals

149. In the positive ion, the number of electrons is ..... the number of protons.

☐ A More than

☐ B Less than

☐ C Equal to

☐ D Half

150. All of these are covalent molecule except .....

☐ A  $H_2O$

☐ B HCl

☐ C MgO

☐ D  $O_2$

151. There's a triple covalent bond in ..... molecule.

☐ A Oxygen

☐ B Hydrogen

☐ C Nitrogen

☐ D Sodium chloride

152. There's a single covalent bond in ..... molecule.

☐ A Oxygen

☐ B Hydrogen

☐ C Nitrogen

☐ D Magnesium oxide

153. There's an ionic bond in ..... molecule.

☐ A Water

☐ B Sodium chloride

☐ C Hydrogen

☐ D Nitrogen

154. In oxygen molecule, there's a/an ..... bond.

☐ A Ionic

☐ B Single covalent

☐ C Double covalent

☐ D Triple covalent

155. The chemical formula of oxygen molecule is .....

☐ A O

☐ B  $O^2$

☐ C  $O^-$

☐ D  $O^{-2}$

156. .... can form positive ions.

☐ A Metals

☐ B Nonmetals

☐ C Noble gases

☐ D Atomic groups

157. Potassium ion can combine with the ion of ..... atom to form an ionic compound.

☐ A Sodium

☐ B Aluminium

☐ C Copper

☐ D Chloride

158. .... atom doesn't lose or gain electrons in chemical reactions.

☐ A sodium

☐ B chlorine

☐ C hydrogen

☐ D argon

159. The bond in water molecule, there's ..... bond.

☐ A Ionic bond

☐ B Single covalent

☐ C Double covalent

☐ D Triple covalent





160. During formation of magnesium oxide, oxygen gains ..... electron(s) from magnesium.

- ☐ A 1      ☐ B 2      ☐ C 3      ☐ D 4

161. All of the following are examples of single covalent bonds except .....

- ☐ A  $\text{H}_2\text{O}$       ☐ B  $\text{H}_2$       ☐ C  $\text{O}_2$       ☐ D  $\text{HCl}$

162. A hydrogen atom can combine with ..... to form a covalent bond.

- ☐ A Sodium      ☐ B Copper      ☐ C Iron      ☐ D Bromine

163. The electric wires are made up of .....

- ☐ A Phosphorous      ☐ B Sulphur      ☐ C Copper      ☐ D Bromine

164. The cables of electric wires are made up of an element, its atomic number is .....

- ☐ A 10      ☐ B 7      ☐ C 17      ☐ D 13

165. The electronic configuration of calcium  ${}_{20}\text{Ca}$  ion is similar to that of ..... Ion.

- ☐ A  ${}_{18}\text{Ar}$       ☐ B  ${}_{12}\text{Mg}$       ☐ C  ${}_{19}\text{K}$       ☐ D  ${}_8\text{O}$

166. All of these are metal solid elements except .....

- ☐ A Sodium      ☐ B Iron      ☐ C Aluminium      ☐ D Mercury

167. The element whose atomic number is ..... forms an ionic bond with oxygen.

- ☐ A 2      ☐ B 16      ☐ C 13      ☐ D 17

168. The valency of atomic group is ..... The number of charges which they carry.

- ☐ A More than      ☐ B Less than      ☐ C Equal to      ☐ D Greater than

169. The number of atoms forming nitrite group is ..... atoms.

- ☐ A 3      ☐ B 5      ☐ C 4      ☐ D 7

170. The number of atoms in sulphuric acid molecule equals ..... atoms.

- ☐ A 6      ☐ B 7      ☐ C 8      ☐ D 5

171. The chemical formula of phosphate is .....

- ☐ A  $\text{Ag}_3\text{PO}_4$       ☐ B  $\text{Hg}_3\text{PO}_4$       ☐ C  $\text{Cu}_2\text{PO}_4$       ☐ D  $\text{Ag}_3\text{SO}_4$

172. Cantaloupe has a bitter taste, due to the presence of ..... ions.

- ☐ A Hydrogen      ☐ B Hydroxide      ☐ C Oxygen      ☐ D Chloride



173. The chemical formula of hydrobromic acid is .....

☐ A  $\text{HNO}_3$

☐ B  $\text{HBr}$

☐ C  $\text{H}_2\text{SO}_4$

☐ D  $\text{HCl}$

174. .... turns blue litmus paper into red.

☐ A  $\text{NaOH}$

☐ B  $\text{KOH}$

☐ C  $\text{HBr}$

☐ D  $\text{Ca(OH)}_2$

175. The chemical formula of ammonium bromide is .....

☐ A  $\text{AlBr}$

☐ B  $\text{HN}_4\text{Br}$

☐ C  $\text{HN}_4\text{Br}_2$

☐ D  $\text{HN}_4\text{Br}_3$

176. The chemical formula of anhydrous copper sulphate is .....

☐ A  $\text{CuSO}_4$

☐ B  $\text{Cu}_2\text{SO}_4$

☐ C  $\text{Cu(SO}_4)_2$

☐ D  $\text{CuCO}_3$

177. All of these salts are soluble in water except .....

☐ A  $\text{NaCl}$

☐ B  $\text{Na}_2\text{S}$

☐ C  $\text{PbI}$

☐ D Sodium carbonate

178. All of carbonate salts don't dissolve in water except .....

☐ A calcium carbonate

☐ B sodium carbonate

☐ C copper carbonate

☐ D silver carbonate

179. When an element ( $_{11}\text{M}$ ) combines with oxygen it produces ..... Oxide.

☐ A  $\text{MO}$

☐ B  $\text{MO}_2$

☐ C  $\text{M}_2\text{O}$

☐ D  $\text{M}_2\text{O}_3$

180. .... is a metal oxide.

☐ A  $\text{CO}_2$

☐ B  $\text{NO}_2$

☐ C  $\text{CaO}$

☐ D  $\text{SO}_3$

181. An element X has 6 electrons in its outer most energy level, so its ion will be .....

☐ A  $\text{X}^-$

☐ B  $\text{X}^{+2}$

☐ C  $\text{X}^{-2}$

☐ D  $\text{X}^{-6}$

182. .... doesn't form a solution.

☐ A Sodium chloride

☐ B Calcium nitrate

☐ C Silver chloride

☐ D Sodium carbonate

183. Caustic soda is from .....

☐ A Salts

☐ B Acids

☐ C Alkalis

☐ D Oxides

184. .... is a trivalent metallic element.

☐ A  $\text{P}$

☐ B  $\text{N}$

☐ C  $\text{Au}$

☐ D  $\text{Hg}$

185. The chemical formula of lithium bicarbonate is .....

☐ A  $\text{Li}_2\text{CO}_3$

☐ B  $\text{LiHCO}_3$

☐ C  $\text{Li}_2\text{SO}_4$

☐ D  $\text{LiNO}_3$





186. The valency of sulphur in  $\text{H}_2\text{S}$  compound is .....

- ☐ A Divalent ☐ B Trivalent ☐ C Tetravalent ☐ D Hexavalent

187. The sulphur isn't ..... element.

- ☐ A Divalent ☐ B Hexavalent ☐ C Monovalent ☐ D Tetravalent

188. The valency of ..... atom is zero.

- ☐ A Sodium ☐ B Copper ☐ C Helium ☐ D Bromine

189. Fluorine and iodine are ..... Elements.

- ☐ A Monovalent ☐ B Divalent ☐ C Trivalent ☐ D Tetravalent

190. The atomic group that of formed of the same elements of water is ..... Group.

- ☐ A Ammonium ☐ B Hydroxide ☐ C Nitrate ☐ D Carbonate

191. The element ( $_{17}\text{X}$ ) combines with ..... to form a salt.

- ☐ A Ar ☐ B  $(\text{NH}_4)^+$  ☐ C  $\text{I}^-$  ☐ D  $(\text{OH})^-$

192. The chemical formula of ferrous chloride is .....

- ☐ A FeCl ☐ B  $\text{FeCl}_2$  ☐ C  $\text{FeCl}_3$  ☐ D  $\text{Fe}_2\text{Cl}_3$

193. .... is composed of 3 elements and 7 atoms.

- ☐ A  $\text{H}_2\text{SO}_4$  ☐ B  $\text{HNO}_3$  ☐ C  $\text{CuCO}_3$  ☐ D  $\text{HN}_4\text{NO}_3$

194. All of these are metal oxides except .....

- ☐ A CuO ☐ B CaO ☐ C  $\text{Na}_2\text{O}$  ☐ D  $\text{CO}_2$

195. Lime water is from .....

- ☐ A Salts ☐ B Acids ☐ C Bases ☐ D Oxides

196. The combination of calcium ion with nitrite group forms .....

- ☐ A An acid ☐ B A base ☐ C A salt ☐ D An oxide

197. The symbol of sodium oxide is .....

- ☐ A  $\text{SO}_2$  ☐ B  $\text{SO}_3$  ☐ C  $\text{NaO}_2$  ☐ D  $\text{Na}_2\text{O}$

198. Lemon has a sour taste as it contains ..... ions.

- ☐ A Hydrogen ☐ B Hydroxide ☐ C Oxygen ☐ D Chloride





# March Revision

## ★ Choose the right answer:

**Mr. Ahmed ElBasha**

1. When a nitrogen atom  ${}^7\text{N}$  gains electrons to complete its outermost shell, it becomes ..

- a.  $\text{N}^{-2}$                       b.  $\text{N}^{-3}$                       c.  $\text{N}^{+3}$                       d.  $\text{N}^{+2}$

2. The triple covalent bond is formed in ..... molecule.

- a. hydrogen                      b. nitrogen                      c. oxygen                      d. water

3. In positive ion, the number of protons is ..... the number of electrons.

- a. less than                      b. more than                      c. equal to

4. All of the following are metals except .....

- a. iron.                      b. oxygen.                      c. copper.                      d. sodium.

5. All of the following are metallic oxides except .....

- a.  $\text{Na}_2\text{O}$                       b.  $\text{MgO}$                       c.  $\text{SO}_3$                       d.  $\text{Al}_2\text{O}_3$

6. All of the following are metals except .....

- a. copper.                      b. aluminium.                      c. sodium                      d. oxygen.

7. The chemical formula of sodium hydroxide is .....

- a.  $\text{HCl}$                       b.  $\text{Na}_2\text{CO}_3$                       c.  $\text{NaOH}$                       d.  $\text{NaCl}$

8. All of the following are covalent molecules except .....

- a.  $\text{H}_2\text{O}$                       b.  $\text{N}_2$                       c.  $\text{NaCl}$                       d.  $\text{O}_2$

9. All of these salts dissolve in water except .....

- a. sodium chloride.                      b. potassium sulphate.                      c. silver chloride.

10. During chemical reactions, ( ${}_{19}\text{K}$ ) atom loses electron(s) and changes into .....

- a.  $\text{K}^{+}$                       b.  $\text{K}^{-}$                       c.  $\text{K}^{+2}$                       d.  $\text{K}^{-2}$

11. The valency of helium ( ${}_{2}\text{He}$ ) is .....

- a. zero                      b. one                      c. two                      d. four



12. Sodium chloride molecule is considered .....

- a. an acid.                      b. an alkali.                      c. an oxide.                      d. a salt.

13. If ( $_{13}\text{Al}$ ) combines with ( $_{8}\text{O}$ ), the chemical formula of the formed compound is .....

- a.  $\text{Al}_3\text{O}_2$                       b.  $\text{AlO}$                       c.  $\text{AlO}_2$                       d.  $\text{Al}_2\text{O}_3$

14. The type of bond in nitrogen molecule is ..... bond.

- a. double covalent                      b. single covalent                      c. triple covalent                      d. ionic

15. .... is a liquid metal.

- a. Mercury                      b. Nitrogen                      c. Magnesium                      d. Chlorin

16. The chemical formula of carbonate group is .....

- a.  $(\text{CO}_3)^{-2}$                       b.  $\text{CO}$                       c.  $(\text{HCO}_3)^{-}$                       d.  $\text{CO}^2$

17. 3. The chemical formula of hydrochloric acid is .....

- a.  $\text{H}_2\text{O}$                       b.  $\text{HCl}$                       c.  $\text{H}_2\text{SO}_4$                       d.  $\text{HNO}_3$

18. The valency of argon is .....

- a. zero.                      b. monovalent.                      c. divalent.                      d. trivalent.

19. All of the following are monovalent atomic groups except ..... group.

- a. nitrate                      b. bicarbonate                      c. phosphate                      d. nitrite

20. The chemical formula of sulphuric acid is .....

- a.  $\text{HNO}_3$                       b.  $\text{H}_2\text{SO}_4$                       c.  $\text{HCl}$

21. There is a single covalent bond in ..... molecule.

- a. hydrogen                      b. nitrogen                      c. oxygen

22. The neutral atom ..... and change to positive ion.

- a. Gain electrons                      b. Charge of nucleus change  
c. number of energy levels increases.                      d. lose electrons

23. The type of bond in water molecule .....

- a. covalent                      b. single covalent                      c. double covalent

24. In positive ion the number of protons ..... number of electrons.

- a. less than                      b. more than                      c. equal

25. The type of bond in water molecule .....

- a. covalent                      b. single covalent                      c. double covalent

**26. The triple covalent bond is formed in ..... molecule**

- a. Hydrogen                      b. Nitrogen                      c. Oxygen                      d. water

**27. All these elements have luster except .....**

- a. sodium                      b. magnesium                      c. nitrogen                      d. calcium.

**28. All these elements are metal solid elements except .....**

- a. sodium                      b. magnesium                      c. mercury                      d. aluminum.

**29. The number of known elements up till now is ..... elements.**

- a. 92                      b. 118                      c. 121                      d. 211

**30. All the following are properties of metals except .....**

- a. they are malleable and ductile,  
b. they are good conductors of electricity.  
c. they contain 1 , 2 or 3 electrons in outermost shell.  
d. they are bad conductors of heat.

**31. All the following elements can form positive ions except .....**

- a. sodium  $_{11}\text{Na}$                       b. chlorine  $_{17}\text{Cl}$                       c. magnesium  $_{12}\text{Mg}$                       d. aluminum  $_{13}\text{Al}$

**32. All nonmetal don't conduct electricity except .....**

- a. bromine                      b. aluminum.                      c. graphite.                      d. mercury.

**33. All these elements can form negative ions except .....**

- a. Oxygen  $_{8}\text{O}$                       b. nitrogen  $_{7}\text{N}$                       c. chlorine  $_{17}\text{Cl}$                       d. aluminum  $_{13}\text{Al}$

**34. When nitrogen atom  $_{7}\text{N}$  gains electron to complete its outer shell, it becomes .....**

- a.  $\text{N}^{+3}$                       b.  $\text{N}^{-2}$                       c.  $\text{N}^{-3}$                       d.  $\text{N}^{-}$

**35. The number of electron in oxygen ion  $\text{O}^{-2}$  is ..... electron.**

- a. 6                      b. 8                      c. 10                      d. 12

**36. All these elements can participate in chemical reactions except .....**

- a. sodium  $\text{Na}$                       b. neon  $\text{Ne}$                       c. hydrogen  $\text{H}$                       d. nitrogen  $\text{N}$

**37. During formation of sodium chloride molecule , sodium atom .....**

- a. gains one electron form chlorine atom.  
b. gives one electron to chlorine atom.  
c. gains tow electrons from chlorine atom.  
d. gives two electrons to chlorine atom.

**38. The bond in sodium chloride molecule is ..... Bond.**

- a. single covalent      b. double covalent      c. triple covalent      d. ionic.

**39. Single covalent bond can exist in ..... Molecule.**

- a. hydrogen      b. oxygen      c. nitrogen      d. sodium.

**40. There is a triple covalent bond in ..... molecule.**

- a. hydrogen      b. chlorine      c. oxygen      d. nitrogen.

**41. In triple covalent bond , each atom shares with .....**

- a. one electron      b. two electrons      c. three electrons      d. three pairs of electrons

**42. All the following elements are monovalent except .....**

- a. hydrogen      b. sodium      c. oxygen      d. chlorine

**43. When an atom loses, gains or shares by one electron, its valency is .....**

- a. monovalent.      B. divalent      c. trivalent      d. tetravalent.

**44. When a nonmetal gains or shares by two electrons, its valency will be .....**

- a. monovalent.      b. divalent      c. trivalent.      d. tetravalent.

**45. In trivalent elements, the outermost energy level contains .....  
Electrons.**

- a. 3 or 5      b. 5 or 6      c. 7 or 1      d. 6 or 3

**46. The valency of argon  $^{18}\text{Ar}$  is .....**

- a. trivalent      b. divalent      c. monovalent      d. zero.

**47. The valency of copper in  $\text{Cu}_2\text{O}$  is .....**

- a. monovalent      b. divalent      c. trivalent      d. tetravalent.

**48. The nitrate group is a ..... radical.**

- a. monovalent      b. divalent      c. trivalent      d. tetravalent.

**49. The chemical formula indicates the ..... in the compound.**

- a. number of atoms      b. type of atoms      c. number of elements.      d. all the previous.

**50. Element M form a compound  $\text{M}(\text{OH})_3$  so, its valency is .....**

- a. monovalent      b. divalent      c. trivalent      d. tetravalent.

**51. Substance are dissociated in water producing negative hydroxide ions are .....**

- a. acids      b. salts      c. alkalies (base)      d. oxides.

**52. When an acid dissolves in water , it produce ..... Ions.**

- a.  $\text{OH}^+$                       b.  $\text{H}^-$                       c.  $\text{H}^+$                       d.  $\text{OH}^-$

**53. All these substances turn litmus paper to red except .....**

- a. HCL                      b.  $\text{HNO}_3$                       c. NaOH                      d.  $\text{H}_2\text{SO}_4$

**54. All these substance turn litmus paper to blue except .....**

- a. NaOH                      b. KOH                      c.  $\text{Ca}(\text{OH})_2$                       d. HBr

**55. Combination of hydrogen with a negative atomic group produces .....**

- a. an acid                      b. a base                      c. an oxide                      d. a salt.

**56. All these are nonmetal oxides except .....**

- a.  $\text{CO}_2$                       b.  $\text{P}_2\text{O}_5$                       c.  $\text{SO}_3$                       d.  $\text{Al}_2\text{O}_3$

**57. Sodium chloride is .....**

- a. an acid                      b. an oxide                      c. a base                      d. a salt.

**58. The salt that is formed on combination of a positive metal ion with a negative atomic grup is .....**

- a. NaCl                      b.  $\text{Na}_2\text{CO}_3$                       c.  $(\text{NH}_4)_2\text{SO}_4$                       d. NaBr.

**59. All these salts dissolve in water except .....**

- a. sodium chloride                      b. potassium sulphate                      c. silver chloride                      d. sodium sulphide.

**60. .... is an example of salts that are soluble in water.**

- a. lead sulphate                      b. magnesium carbonate                      c. silver chloride                      d. lead iodide.

**Model answer**

1. B	11.A	21.A	31.B	41.C	51.C
2. B	12.D	22.D	32.C	42.C	52.C
3. B	13.D	23.B	33.D	43.A	53.C
4. B	14.C	24.B	34.C	44.B	54.D
5. C	15.A	25.B	35.C	45.A	55.A
6. D	16.A	26.B	36.B	46.D	56.D
7. C	17.B	27.C	37.B	47.A	57.D
8. C	18.A	28.C	38.D	48.A	58.B
9. C	19.C	29.B	39.A	49.D	59.C
10.A	20.B	30.D	40.D	50.C	60.B

## Final revision for prep.1

by Mrs./ Ebtsam Abd El Rahim

### Choose the correct answer:-

- 1) The chemical formula of sulphuric acid is.....  
a-  $\text{HNO}_3$       b-  $\text{H}_2\text{SO}_4$       c-  $\text{HCl}$       d-  $\text{H}_2\text{CO}_3$
- 2) There is single covalent bond in .....molecule.  
a- Hydrogen      b- nitrogen      c- oxygen      d- sodium chloride.
- 3) The chemical formula of calcium bicarbonate is.....  
a-  $\text{CaO}$       b-  $\text{CaNO}_3$       c-  $\text{Ca}(\text{HCO}_3)_2$       d-  $\text{CaCO}_3$
- 4) The salt that is formed from combination of positive atomic group with negative atomic group is.....  
a-  $\text{NH}_4\text{Cl}$       b-  $(\text{NH}_4)_2\text{CO}_3$       c-  $\text{Na}_2\text{SO}_4$       d-  $\text{NH}_4\text{Br}$
- 5) All of the following are monovalent atomic group except .....group.  
a- Nitrate      b- bicarbonate      c- phosphate      d- nitrite.
- 6) The valency of Argon ( $_{18}\text{Ar}$ ) is.....  
a- Monovalent.      b- divalent.      c- zero.      d- trivalent.
- 7) There is a triple covalent bond in .....molecule.  
a- Hydrogen.      b- chlorine.      c- oxygen      d- nitrogen.
- 8) The chemical formula of hydrochloric acid is.....  
a-  $\text{H}_2\text{O}$       b-  $\text{HCl}$       c-  $\text{H}_2\text{SO}_4$       d-  $\text{HNO}_3$
- 9) .....is a liquid metal.  
a- Mercury.      b- Nitrogen.      c- Magnesium.      d- chlorine.
- 10) The chemical formula of carbonate group is.....  
a-  $(\text{CO}_3)^{-2}$       b-  $\text{CO}$       c-  $(\text{HCO}_3)^{-}$       d-  $\text{CO}_2$
- 11) The type of bond in nitrogen molecule is.....bond.  
a- Double covalent.      b- single covalent.      c- triple covalent.      d- ionic.
- 12) All of nonmetals don't conduct electricity except.....  
a- Bromine.      b- aluminium.      c- graphite      d- mercury
- 13) The symbol of phosphate group is.....  
a-  $(\text{CO}_3)^{-2}$       b-  $(\text{PO}_4)^{-3}$       c-  $(\text{SO}_4)^{-2}$       d-  $(\text{NH}_4)^{+}$
- 14) During the chemical reaction ( $_{19}\text{K}$ ) atom loses electron and changes in to .....  
a-  $\text{K}^{+}$       b-  $\text{K}^{-}$       c-  $\text{K}^{+2}$       d-  $\text{K}^{-2}$



- 15) The valency of helium ( ${}_2\text{He}$ ) is.....  
a- Zero.      b-one      c-two      d-four
- 16) All of the following are covalent molecules except.....  
a-  $\text{H}_2\text{O}$       b- $\text{MgO}$       c- $\text{N}_2$       d- $\text{O}_2$
- 17) All of the following are metals except .....  
a- Copper .      b-aluminium.      c- sodium.      d-oxygen.
- 18) The chemical formula of sodium hydroxide is.....  
a-  $\text{HCl}$       b- $\text{NaOH}$       c-  $\text{Na}_2\text{CO}_3$       d- $\text{NaCl}$
- 19) When a Nitrogen atom ( ${}_7\text{N}$ ) gains electrons it becomes.....  
a-  $\text{N}^{-2}$       b- $\text{N}^{-3}$       c- $\text{N}^{+2}$       d- $\text{N}^{+3}$
- 20) In positive ion , the number of protons is.....the number of electrons.  
a- Less than.      b-more than.      c-equal to.      d-no correct answer.
- 21) The triple covalent bond is formed in.....molecule.  
a- Hydrogen.      b-nitrogen .      c-oxygen.      d-water.
- 22) All the following are covalent molecule except.....  
a-  $\text{H}_2\text{O}$       b- $\text{NaCl}$       c- $\text{N}_2$       d- $\text{O}_2$
- 23) The number of electrons in the outer most energy level of( $\text{O}^{-2}$ )equals the number of electrons in the outer most energy level of.....  
a-  ${}_{20}\text{Ca}$       b- ${}_{18}\text{Ar}$       c- ${}_{11}\text{Na}$       d- ${}_{13}\text{Al}$
- 24) The following elements are good conductors of electricity except.....  
a-  ${}_8\text{O}$       b- ${}_{11}\text{Na}$       c- ${}_{12}\text{Mg}$       d- ${}_{13}\text{Al}$
- 25) All of the following elements change in to negative ion during the chemical reactions except.....  
a-  ${}_{17}\text{Cl}$       b- ${}_8\text{O}$       c- ${}_7\text{N}$       d- ${}_{12}\text{Mg}$
- 26) All of the following are monovalent atomic groups except .....  
a-nitrate.      b-bicarbonate .      c-phosphate.      d-nitrite.
- 27) The chemical formula of calcium carbonate is .....  
a-  $\text{Ca}_2\text{CO}_3$       b- $\text{CaCO}_3$       c- $\text{CaCO}_2$       d- $\text{CaSO}_4$
- 28) The number of known elements up till now is.....elements.  
a- 92      b-118      c-121      d-211
- 29) The element which has the atomic number 12 is considered from.....  
a- Metals.      b- nonmetals      c-nobel gas.      d-no correct answer.

- 30) When an atom loses one electron or more it changes in to .....  
a- a negative ion. b-positive ion. c-a neutral atom. d-no correct answer
- 31) All of the following elements can form positive ion except.....  
a-  $_{11}\text{Na}$  b- $_{17}\text{Cl}$  c- $_{12}\text{Mg}$  d- $_{13}\text{Al}$
- 32) The only nonmetal that exists in liquid state is.....  
a- Bromine. B-chlorine. c-hydrogen. d-nitrogen.
- 33) In a negative ion the number of protons is.....the number of electrons.  
a- less than. b-more than. c-equal to. d-no correct answer.
- 34) The bond in sodium chloride molecule is.....bond.  
a- Single covalent. b-double covalent. c-triple covalent. d-ionic.
- 35) The covalent bond usually arises between .....elements.  
a- Two metallic. b-two nonmetallic. c-metallic and nonmetallic.
- 36) When an atom is changed in to an ion the .....is changed.  
a- Number of protons. c-number of electrons .  
b- Number of neutrons. d-mass number.
- 37) .....elements are the most stable elements.  
a- Metals. b-nonmetals. c-nobel gases d-metalloids.
- 38) When a nonmetal gains or shares by two electrons , its valency will be.....  
a- Monovalent. b-divalent. c-trivalent. d-tetravalent.
- 39) The valency of argon ( $_{18}\text{Ar}$ ) is.....  
a- Trivalent. b-monovalent. c-divalent . d-zero.
- 40) The chemical formula of sodium nitrite is .....  
a-  $\text{NaNO}$  b- $\text{NaNO}_3$  c- $\text{NaNO}_2$  d- $\text{NaNO}_3$
- 41) All of the following are divalent except.....  
a-  $_{12}\text{Mg}$  b- $_{7}\text{N}$  c- $_{8}\text{O}$  d- $_{16}\text{S}$
- 42) The .....is the number of electrons that an atom loses or gains or even shares with another atom.  
a- Mass number. b-atomic number. c- valency. d-weight number.
- 43) The valency of ferrous is.....  
a- Monovalent b-divalent. c-trivalent. d-tetravalent.
- 44) All of the following elements are monovalent except .....  
a- Hydrogen. b-sodium . c-oxygen. d-chlorine.



- 45) All of the following elements can participate in a chemical reaction except.....  
 a- Sodium( $_{11}\text{Na}$ )    b- Neon( $_{10}\text{Ne}$ )    c- Hydrogen( $_1\text{H}$ )    d- Nitrogen( $_7\text{N}$ )
- 46) The molecule of noble gases consist of.....  
 a- One atom.    b- two atoms.    c- three atoms.    d- no correct answer.
- 47) The chemical formula of calcium bicarbonate is.....  
 a-  $\text{CaCO}_3$     b-  $\text{CaH}(\text{CO}_3)_2$     c-  $\text{Ca}(\text{HCO}_3)_2$     d-  $\text{Ca}_2\text{HCO}_3$
- 48) The element which has atomic number 17 is considered from.....  
 a- Metals.    b- nonmetals.    c- noble gases    d- no correct answer.
- 49) The chemical formula of aluminium chloride molecule is.....  
 a-  $\text{AlCl}$     b-  $\text{AlCl}_3$     c-  $\text{Al}_2\text{Cl}$     d-  $\text{Al}_3\text{Cl}$
- 50) The number of electrons in oxygen ion ( $\text{O}^{2-}$ ) is.....electrons.  
 a- 8    b- 10    c- 6    d- 12
- 51) The valency of ferric is.....  
 a- Monovalent.    b- divalent.    c- trivalent.    d- tetravalent.
- 52) The chemical formula of silver chloride is.....  
 a-  $\text{AgCl}$     b-  $\text{HgCl}$     c-  $\text{MgCl}$     d-  $\text{NaCl}$
- 53) The .....elements have less than 4 electrons in their outer most energy level.  
 a- Nonmetallic.    b- metallic    c- noble gases    d- no correct answer
- 54) When an acid dissolves in water it produces.....ions  
 a-  $(\text{OH})^-$     b-  $\text{H}^-$     c-  $\text{H}^+$     d-  $(\text{OH})^+$
- 55) When an alkali dissolves in water it produces.....ions  
 a-  $(\text{OH})^-$     b-  $\text{H}^+$     c-  $(\text{OH})^{-2}$     d-  $(\text{OH})^+$
- 56) All of the following turns litmus paper in to red except.....  
 a-  $\text{HCl}$     b-  $\text{HNO}_3$     c-  $\text{NaOH}$     d-  $\text{H}_2\text{SO}_4$
- 57) All of these substances turn litmus paper in to blue except.....  
 a-  $\text{NaOH}$     b-  $\text{KOH}$     c-  $\text{Ca}(\text{OH})_2$     d-  $\text{HBr}$
- 58) Sodium chloride is.....  
 a- Acid    b- salt    c- base    d- oxide
- 59) The chemical formula of aluminium chloride is.....  
 a-  $\text{AlO}$     b-  $\text{Al}_2\text{O}_3$     c-  $\text{Al}_3\text{O}_2$     d-  $\text{AlO}_3$
- 60) All of these salts dissolve in water except.....  
 a- Sodium chloride.    b- silver chloride    c- potassium chloride

61) All of these are non metal oxides except.....

a-  $\text{CO}_2$

b-  $\text{P}_2\text{O}_5$

c-  $\text{SO}_3$

d-  $\text{Al}_2\text{O}_3$

62) Sodium hydroxide is.....

a- An acid

b- a base

c- an oxide

d- a salt

63) The salt that is formed on the combination of positive atomic group with a negative atomic group is.....

a-  $\text{NH}_4\text{Cl}$

b-  $(\text{NH}_4)_2\text{CO}_3$

c-  $\text{Na}_2\text{SO}_4$

d-  $\text{NH}_4\text{Br}$

64) All of the following are metallic oxides except.....

a-  $\text{Na}_2\text{O}$

b-  $\text{MgO}$

c-  $\text{SO}_3$

d-  $\text{Al}_2\text{O}_3$

65) Element (M) form a compound  $\text{M}(\text{OH})_3$  so, its valency is.....

a- Monovalent

b- divalent


c- trivalent

d- tetravalent

**Mrs. Ehtsam**

## unit 1

### Q1 Complete the table:

Element	Electronic Configuration	Type of element (Metal – non metal)	Type of ion (positive-negative- no ion)
$^{23}_{11}\text{Na}$			
$^{17}_{17}\text{Cl}$			
$^{13}_{13}\text{Al}$			
$^7_7\text{N}$			
$^8_8\text{O}$			
$^{18}_{18}\text{Ar}$			

### Q2) Complete:

- Metals contain ---- , ---- or --- electrons in their outer most energy levels, so they ----- electrons to complete their outer energy levels with ----- electrons.
- Non-metals contain -----, ----- or ----- electrons in their outer most energy levels, so they ----- electrons to complete their outer most energy level with ----- electrons.
- The ionic bond arises due to the -----force between the positive ions of the ----- & the negative ions of the -----.
- Metals lose electrons & change into ----- ions, while non-metals gain electrons & change into -----ions.

5. The bond between the oxygen molecules is -----
6. The ionic bond arises due to the -----force between the positive ions of the -----  
& the negative ions of the -----.

**Q3) Write the scientific term:**

1. An atom lost an electron or more during the chemical reactions. -----
2. An atom gained an electron or more during the chemical reactions. -----
3. An atom of element that neither loses nor gain any electrons -----
4. Elements which have luster, good conductors of heat& electricity. -----
5. Elements which are not malleable or ductile, bad conductors of heat& electricity-----
6. The bond that formed between 2 non- metals. -----
7. A strong electrical attraction force take place between the positive metal ions the negative non-metal ions forming an ionic compound molecule. -----
8. The covalent bond in which each atom shares the other with one electron. -----
9. The covalent bond in which each atom shares the other with three electrons. -----
10. The elements which their outer electron shells are completely filled with electrons. -----
11. Elements which contain more than 4 electrons in their outer shell -----
12. A bond that is resulted from the sharing of each atom with two electrons. -----
13. The total amount of reactants masses is equal to the total amount of products masses.  
-----
14. Poisonous gases that affect on both eye and the nervous system. -----
- 15..Breaking the reactants bonds and forming new ones among the products. -----
16. A set of chemical formulae and symbols expressing the reactants, the products and the reaction conditions. -----

**Choose the correct answer**

1. The bright magnesium ribbon changes into white powder of ----- when it burns in air.  
(magnesium nitrite – magnesium hydroxide – magnesium dioxide – magnesium oxide)
2. Ammonia combines with HCl producing ----- of ammonium chloride  
(white ppt – brown fumes – white fumes – brown ppt)
3. All the following are properties of metals except -----.  
(they are good conductors of electricity – they are bad conductors of heat – they contain 1,2 or 3 electrons in outermost shell)
4. All these elements are metal solid elements except -----.  
(sodium – magnesium – mercury – aluminum)
5. When an atom of an element loses one electron or more, it changes into -----.  
(negative ion – positive ion – neutral atom – no correct answer)
6. All the following elements can form positive ions except -----.  
(sodium 11Na – magnesium 12Mg – chlorine 17Cl – aluminum 13Al)
7. The valency of noble gases is -----  
a monovalent.      b divalent      c Zero
8. The chemical formula of carbonate group is .....  
a (NO<sub>3</sub>)—      b (SO<sub>4</sub>)—      c (CO<sub>3</sub>)—
9. All of the following are monovalent atomic groups except ..... group.  
a Sulphate      b nitrate      c hydroxide
10. Which of the following is a trivalent atomic group? .....  
a Sulphate.      b Ammonium.      c Phosphate.
11. the chemical formula of calcium bicarbonate is .....  
a CaCO<sub>3</sub>      b CaH(CO<sub>3</sub>)<sub>2</sub>      c Ca(HCO<sub>3</sub>)<sub>2</sub>

**12. The chemical formula of sodium bicarbonate is .....**

- a NaOH                      b  $\text{NaCO}_3$                       c  $\text{NaHCO}_3$

**13. When an acid dissolves in water, it produces ..... ions.**

- a  $\text{H}^-$                       b  $\text{H}^+$                       c  $(\text{OH})^-$

**14. When an alkali (base) dissolves in water, it gives ..... ions.**

- a  $\text{H}^+$                       b  $(\text{OH})^-$                       c  $(\text{OH})^+$

**15. All of these substances turn litmus paper into red except .....**

- a  $\text{HCl}$                       b  $\text{NaOH}$                       c  $\text{HNO}_3$

**16. All of these substances turn litmus paper into blue except .....**

- a  $\text{NaOH}$                       b  $\text{HCl}$                       c  $\text{KOH}$

**17. Chemical reactions are used in .....**

- a medicines industry  
b fertilizers industry  
c all of the previous answers

**18. The gases that cause building corrosion are .....**

- a nitrogen oxides  
b carbon oxides  
c Sulphur oxides

**19. the gases that affect the nervous system and the eye are .....**

- a nitrogen oxides  
b carbon oxides  
c Sulphur oxides

**20. The substances resulted from burning of coal and cellulose fibers cause .....**

- a head-ache  
b fainting  
c lung cancer

**21. Increasing the ratio of ----- gas in the atmosphere leads to increasing the air temperature.**

- a carbon dioxide  
b nitric oxide  
c Sulphur dioxide

**Q Show by drawing the formation of covalent bond in the following:**

1. **Hydrogen molecule:**



2. **Oxygen molecule:**



3. **Nitrogen molecule:**



**Write the chemical equation representing the following reactions:**

1. Burning of magnesium with oxygen to produce magnesium oxide.

.....

2. Burning of carbon in the presence of oxygen to produce carbon dioxide.

.....

3. Burning of ammonia gas with hydrochloric acid to produce ammonium chloride.

.....

**Question (5)**

**Calculate the masses of reactants and products in the following reactions:**

**Knowing that the mass of (S= 32 gm, O = 16 gm)**



**Write the chemical formula of the following:**

The Compound	Chemical formula
1. Sodium nitrate	
2. Sodium Carbonate	
3. Sodium Hydroxide	
4. Calcium Nitrate	
5 Calcium Carbonate.	
6. Calcium Sulphate.	
7. Calcium Hydroxide	
8. Aluminum Oxide	

**Q3 Write the name of the following:**

$\text{Al}_2(\text{SO}_4)_3$       -----

$\text{CaCO}_3$       -----

$\text{Na}_2\text{O}$       -----

$\text{MgCO}_3$       -----

$\text{AgCl}$       -----